DOCUMENT RESUME

ED 464 692 JC 020 394

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| AUTHOR | Mednick, Michele |
| TITLE | Information Literacy: The New Challenge. |
| PUB DATE | 2002-00-00 |
| NOTE | 17p. |
| PUB TYPE | Information Analyses (070) |
| EDRS PRICE | MF01/PC01 Plus Postage. |
| DESCRIPTORS | *Community Colleges; Curriculum Development; *Information Literacy; *Information Technology; *Librarians; Libraries; *Library Science; *Lifelong Learning; Technology Integration; Two Year Colleges |

ABSTRACT

This paper asserts that information literacy is a crucial element in education at all levels, and in particular at the community college level. The author defines information literacy in a number of ways, including this recent definition offered by Shapiro and Hughes: "A new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural, and even philosophical context and impact." Developing lifelong learners is central to the mission of higher education institutions, and information literacy is crucial to lifelong learning. Assurance of information literacy among college students must be incorporated into the academic curriculum. This article suggests that information literacy incorporation must be approached from the top down--administrator awareness of information literacy requirements will trickle down, and support will increase. It then will become the job of librarians and instructors to make sure it is practiced in the library and the classroom. The role of the librarian will expand from that of a custodian of information to one who teaches and develops curricula, making them key instructional team members and partners with faculty. (Contains 22 references.) (NB)

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# Information Literacy: The New Challenge

by Michele Mednick

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ED 464 692

Information literacy, the current "buzz word" in academia, is causing quite a stir among community colleges. It is responsible for creating new librarian positions, additional funding and changing the way students, instructors and librarians look at their new role in the information age. This article will attempt to define information literacy and how it affects education at the community college level.

The first step to better understanding what information literacy is to define it. This task may sound simple, but a single definition is not universally agreed upon. Then this paper will take a look at the role it plays in higher education. Details such as how it is incorporated into the academic curriculum and how it effects both educators and students will be addressed. Thirdly, the question of its success will be measured. Which leads into a discussion of whether it is successful or conversely, what are the road blocks to its success. Finally, a glimpse at what the future may hold for information literacy in the 21st century.

## The Definitions

The question of what information literacy is cannot be easily answered. This is for a number of reasons. First of all information can be presented in a number of formats, thus the "term 'information' applies to more than the printed word" (Plotnick,Info Lit ED427777). It can apply to other literacy's like media, computer and visual. (Plotnick) Also information literacy is fluid and changes with technological advancements, economic needs, national and state standards to

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name a few factors (Plotnick). Also, it can be used to define a person's abilities and skills.

In 1989, the American Library Association (ALA) Presidential Committee on Information Literacy defined the information literate person as one who "must be able to recognize when information is needed and have the ability to locate, evaluate and effectively use the needed information." (Plotnick ED427777).

Later, in 1998, this definition was amended to incorporate the future of information literacy. In their mission statement for a global information society they said, the "21st century information literacy is the ability to seek and effectively utilize information resources, including knowledge of how to use technologies and the forms in which information is stored." (Ercegovac & Yamasaki, Infor Lit) Additionally, according to the ALA, information literate people "are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them." (Infor Lit Def p2)

Over the years, a number of scholars and professional associations have re-interrupted information literacy. To illustrate this point further, here are some additional definitions put forth by academics: In 1996, the Commission on Colleges, Southern Association of Colleges and Schools (SACS) defined information literacy as, "the ability to locate, evaluate and use information to become independent life-long learners." (Directory of Online Resources, Drew Smith). Another definition adopted in 1997 by the State University of New York (SUNY), which is also similar to the ALA definition is, "the abilities to recognize when information is needed and to locate, evaluate, effectively use, and communicate information in its various formats." (Directory of Online Resources, Smith).

The Colorado Educational Media Association put out the following definition,

"Information literate students are competent, independent learners. They know their information and actively engage in the world of ideas. They display confidence in their ability to solve problems and know what is relevant information....Information literate students are flexible, can adapt to change and are able to function independently and in groups." (Info Lit Def

The above definitions are not such a stretch from the ALA definition, but the one by Shapiro and Hughes is. Their definition is, "a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact."

Factors that also influence and change the definition of information literacy include additional research, economic, state and national standards and technology. It must be pointed out that information literacy is a process (Plotnick) and as research on information literacy continues, the definitions will continue to change to reflect future investigations. This is one of the reasons that information literacy needs to be incorporated into the academic curriculum. (Plotnick).

Information literacy is also dependent upon changes in the workforce. According to Plotnick, "The workplace will require workers who possess skills beyond those of reading, writing and arithmetic." (p2) To further illustrate this point, according to study in 1998, "55 percent of all employees now use computer technology; 70 percent are connected to a local area network." (Adler p 34 ED433005) As information literacy progresses, national and state standards will be adopted and will have common components relating to information literacy. (Plotnick). Finally, as technology changes, so will information literacy change to meet the growing needs of the users.

**The Role in Higher Education**

Now that information literacy is adequately defined, this paper will address how it affect students, administrators, librarians and faculty at the community college level.

Information literacy affects college students in the following ways, "In order for students to obtain a good education, they must have access to a wide variety of sources that challenge their minds, encourages them to read and research broadly, and makes them aware of the range and breadth of the knowledge developed by many people and cultures. Expanding information competency will help students achieve this goal." (10 421191) According to the Academic Senate for California Community Colleges, "Information competency is a critical skill for student success." (7 421191)

For college students to succeed as information literate people, they must start learning these skills at an early age. According to Humes, "In order to produce learners who are information literate, schools will need to integrate information literacy skills across the curriculum in all subject areas beginning in the earliest grades." (ED430577 P2) This idea directly ties into the mission of higher education. In a document entitled "Information Literacy Competency Standard for Higher Education, which was put out by the Association of College and Research Libraries (ACRL) in 2000, they assert, "Developing lifelong learners is central to the mission of higher education institutions..... Information literacy is a key component of, and contributor to, lifelong learning.... Because information literacy augments students' competency with evaluating, managing, and using information, is it now considered by several regional and discipline-based accreditation association as a key outcome for college students." (ED 440624 p.6). Likewise according to the Ross Report, "Higher education has a critical role in the

acquisition by adults of information literacy, but this form of literacy is part of a continuum which should commence with school education." (Bundy 12 ED434662)

The idea of information literacy and its link to college students being lifelong learners is echoed in many of the University Library Mission Statements all over the world. For example, the University of South Australia Library's mission is, "To be the university's key information provider in facilitating student centered learning, research and information literacy for lifelong learning." (14 Bundy ED434 662). And the Deakin University's mission statement was rewritten in 1997 to reflect this need. "The library will be pre-eminent in providing information skills, services and resources for the university community to succeed in lifelong education." (Bundy 14 662) As Bundy writes, "The lifelong learning wagon seems a singularly appropriate vehicle to which all types of libraries should hitch themselves, and particularly academic libraries." (14 662)

The way to assure that college level students are information literate is to integrate information literacy into the academic curricula--across all disciplines. Because of this information literacy takes a commitment from all levels of academia, from the top down-- from administration to faculty to students. "Incorporating information literacy across curricula, in all programs and services, and throughout and administrative life of the university, requires the collaborative efforts of faculty, librarians, and administrators." (ED 440624 ACRL p6).

The best way to incorporate information literacy in the college curriculum is to start from the topdown. High level college administrators need to become aware of the growing need to implement information literacy in their institution. Their awareness will then trickle down and support for information literacy will increase on their respective campus. To enhance their knowledge about information literacy, administrators should attend conferences like the one on

March 24, 1998 in Atlanta, Georgia. This conference panel by the American Association of Higher Education (AAHE) met to di cuss "integrating information literacy into the curriculum." (Conference Circuit , Oberman). The symposium was geared toward educational administrators, such as presidents and vice-presidents to "assist the audience in evaluating their own institutional information literacy awareness." (Conference Circuit).

Likewise, Breivik writes,"...if we keep information literacy as a library issues, if we fear being rejected, if we fear losing control by partnering with educators and others, we are never going to get anywhere. This is not a library issue. This is an educational issue." (3 ED447823). In her paper, Ms. Breivik continues to address directors by saying," You need to be involved in ensuring across general education curriculum students' learning basis information literacy abilities.... This isn't going to happen without the director's active involvement.... You need to be out there working at policy level; because, unless you are, your librarians can never be a significant partner in the process... You have to be out playing a leadership role on your campus." (8 ED447823)

Once information literacy is accepted by administrators, then it is the job of the librarians and instructors to make sure it is practiced in the classroom and library setting. According the Ross Report, "librarians have an important perspective to contribute to the teaching/learning process for they see the problems clients have in carrying out research/enquiry based tasks...librarians have a teaching role to perform, a role that focuses on information and skills needed to access and use it." (12 Bundy 662 ) Therefore, librarians must act a both educators and agents to help facilitate the spread of information competency.

The role of the librarian is changing drastically with the new Information Age. Traditionally, librarians were viewed as just "custodians of printed information resources"(

Ercegovac p2), but in the Age of Information, their role now has changed to becoming educators. In the early 1970's librarians were on the forefront of promoting the link between information literacy and lifelong learning. (430 577 p5 ) Because of their unique role in education, librarians, as information specialist, will be increasing called upon to work with faculty together to develop curriculum. (430 577 p5) According to Ercegovac and Yamasaki, "...librarians have become the primary instructors in community colleges to teach research methods and critical thinking skills as applied to information access. As such, there is increasing support for community college librarians to be seen as key instructional team members and as partners with faculty"(p2).

Faculty development is crucial to the implementation of information literacy. Faculty must be well trained before college students can become information competent. (421 191 p6 ). In order for faculty to achieve these demands certain processes must be first be obtained. This includes additional money needed to properly train academic instructors (421 191 p6). Also, faculty will need continual updating of their skills due to the rapid technological advances. (421c 191 p6). According to the Academic Senate for California Community Colleges, "Community College faculty have the primary responsibility in determining curriculum and developing a program for information competency on the local campus." 421 191 p.7)

**The Standards**

Once information literacy is incorporated in the community college curriculum, the challenge then is to measure its effectiveness and to discover what roadblocks are in its path to divert its success. Information literacy standards for higher education are important because they provide "a framework for assessing the information literate individual." (4 ebschost 26) The

standards help pinpoint specific indicators which librarians and faculty used to identify a student as information literate (p4). Standards are also helpful to students because it provides them with a "framework for gaining control over how they interact with information in their environment." (p4) Also, students need to be continuously assessed of their information literacy skills throughout their educational endeavors. (ED 421 191 p6)

However, it is not always easy to assess the effectiveness of the standards themselves. The difficulty lies in the fact that the assessment is a group effort which is shared by librarians and students. According to Bosseau, "Assessment is difficult because libraries cannot do it alone. The results are potentially frightening because librarians, although not solely responsible, may fear being held solely accountable." (p2 record 14.) Bosseau also maintains that information literacy outcomes can be measured on at least four levels. These levels are: "within the library; in the classroom; on campus; and beyond the campus." (p2)

Different educators or associations use various methods to measure information literacy . For example, according the Association of College and Research Libraries (ACRL), there are five major standards that must be assessed through performance indicators and outcomes. The five standards are:

1) The information literate student determines the nature and extent of the information needed.

2) The information literate student accesses needed information effectively and efficiently.

3) The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

4) The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

5) The information literate student understands many of the economic, legal and social issues

surrounding the use of information and accesses and uses information ethically and legally. (ED 440 624)

The paper "Information Literacy Competency Standards for Higher Education" goes into specific details about how each of these points are measured and what outcomes are obtained. Similarly, the American Association of School Librarians (AASL), have put forth nine recommendations of information literacy standards for student learning. In their paper, they divide the standards into three main groups of "information literacy, independent learning and social responsibility". (Information Power)

One way to determine the success of information literacy skills is to "test" the students. For example, questionnaires and surveys can be administered to the students.

Some colleges and universities mandate exactly what level of competency students are to reach each year they are enrolled. For example, at the University of Connecticut, the "Library Instruction: Information Literacy Curriculum" is divided into the four undergraduate years and then graduate level. This document clearly states what information literacy skills should be obtained at each education level and what objectives should be met. (http://webapps.lib.uconn) Their continual assessment of the students mastery of information competency skills directly ties in with the Academic Senate for California Community Colleges when they suggest, "Just as information competency skills should be distributed throughout the curriculum, so too, should the assessments of student mastery. Information competency skills need continual assessment as every level of the student's course of study." (p.6 421 191)

**The Roadblocks**

There are many reasons why students can fail to become information literate. These reasons range from issues of students who are distance learners, have language barriers, have social-economic conditions that may hinder their advancement or they may just simply have information overload.

Distance learners present the education world with a unique situation. According to statistics done in 1995 by the National Center for Education Statistics, one third of higher education institutions in the U.S. offer distance education classes. (p 1 Record 11). One the average distance learners are older than the typical student, married and employed full time. (Record 11 p2) Because of these circumstances, distant education students may find it harder to visit the library and interact with the librarians. To meet this challenge, academic librarians are "struggling to develop successful information literacy instruction for distance students." (p3 Record 11). Examples of what academic librarians have done to meet the needs of these students includes the development of web-based tutorials, online course-integrated information literacy instruction and information literacy credit courses. (Record 11 p6-7). However, in order for any of these strategies to be successful, students must first be technologically literate. It is assumed that students in these classes will be Web savvy, which may or may not be the case.

Since the above mentioned methods are very time consuming and costly to develop, assessment of their success is crucial. (p9 Record 11). In this case, assessment is done to "provide statistical information to administrators, to compare delivery systems, to determine cost-effectiveness, to judge to performance of the individual, and to measure and provide feedback on overall learning in a course...." (p9 Record 11).

Another group of students that may have difficulty in measuring up to the information literacy skills required of college students are those that are foreign or bilingual students. These

students present a great challenge to educators and librarians. Questions that arise when dealing with this group include, "How can we assure the non-English speaking and reading students will have the same access to information skills training and practice as other students? How can we develop appropriate strategies and techniques for working with bilingual an monolingual students when we have limited bilingual or English as a Second Language training? How will we as a profession address the real and substantive problems associated with evaluating/assessing the information literacy skills of bilingual or monolingual students?" (p17 Loertscher) These questions are not easily answered but have been addressed in the From Library Skills to Information Literacy manual put out by the California School Library Association. (p17)

In the United States, we take issues of literacy and access to technology for granted, but in developing nations these are luxuries. For example, in 1991 the illiteracy rate in the United States is .5 percent whereas in Uganda the rate was 43.9 percent, Brazil had a rate of 20.1 percent and Mexico had 12.4 percent in 1990. (p3 Rudisill ED434681). Another problem that the developing nations face is a lack of publishing which is important because it "reduces the assessts available for information professionals to lobby governments for support for programs." (p3-4 Rudisill). According to Rudisill "Illiteracy, lack of publishing, lack of recognition of the importance of information and information professionals, and governmental instability are more tangible than the final roadblock to adoption of information literacy initiatives....Much work needs to be done to tailor a useful system for information delivery and the skills needed to deal with information in the developing world." (4). It is no wonder that students entering our community colleges from these developing countries have difficulty keeping up with our information literacy standards.

Finally, information literacy can be difficult for college students to master because of

simply "information overload". According to Lenox and Walker "there is more information in a single edition of the New York Times than a man or woman in the sixteenth century had to process in the whole of his or her life." (Karelse ED 434 670 p1) People are often overwhelmed by the amount of information that they are expected to process. (p1 Karelse). According to Karelse, "Learners who have the competencies to learn for life therefore need the abilities to navigate a range of information systems, vehicles and highways and additionally require skills to work with information critically." (p1) Since information literacy skills are in constant flux and updated to meet the changing needs of our society and workforce, it is not obscure to see why students may feel overloaded

**The 21st Century and Beyond**

The future is always difficult to predict, but in the case of information literacy, we can see the trends. The one constant thing that will happen in the future is change.

The workforce is changing to include more industries that require knowledge based work. To met the demands of a changing society, educators must prepare the upcoming generation to fulfill these higher goals. According to Bundy the challenge of the 21st century is "where the librarians, libraries and information access and the use are the top priority for funding and where the primary task of the teachers and lecturers is to provide frameworks which facilitate information literacy." (p11 ED 434 662)

In order for educators and librarians to do their part and adequately prepare students, they must have support. This support needs to come in various forms including monetary-- additional funding for developing information literacy instruction for all students (including distance

learners, ESL and those from developing nations). Support also needs to come from the top down, in the form of administrators becoming aware of this need and promoting changes in curriculum and policy. Also, changes need to be made to the way librarians are perceived. Librarians will no longer be the gatekeepers of information, but the key masters -- opening the doors for knowledge.

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